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ABSTRACT

The existence of a general construct of self-concept has been well documented and generally accepted. To examine the multidimensionality of self-concept, 485 school age children (248 females, 237 males) completed the Piers-Harris Children's Self-Concept Scale, which included an assessment of six subareas: behavior, intellectual and school status, physical appearance and attributes, anxiety, popularity, and hapiness and satisfaction. The responses were factor analyzed using a hierarchical factor analysis procedure. Results indicated the presence of a general, dominant factor of self-concept. In addition, several secondary factors emerged, providing support for the multidimensionality of the general construct of self-concept as measured by the Piers-Harris. (Author/BL)

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EXAMINING THE DIMENSIONALITY OF SELF-CONCEPT USING THE PIERS-HARRIS

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Abstract

The existence of a general construct of self-concept has been well-documented and generally accepted. Whether self-concept consists of multiple dimensions, however, remains in question. This paper reports on an examination of the multidimensionality of self-concept. A sample of 485 children (248 girls and 237 boys) was involved in the study. Their responses on the Piers-Harris Children's Self-Concept Scale were factor analyzed using a hierarchial factor analysis procedure. Results indicated the presence of a general, dominant factor of self-concept. In addition, several secondary factors emerged, providing support for the multidimensionality of the general construct of self-concept.

The Piers-Harris Children's Self-Concept Scale (Piers, 1984) is an extensively researched, self-report instrument designed to assess self-concept in children and adolescents. Self-concept is defined by this scale as a relatively stable set of self-attitudes reflecting a description and evaluation of an individual's behavior and other characteristics. The 80 dichotomous ("yes-no") items are scored in either a positive or negative direction and provide an overall measure of self-concept. A high score on the scale indicates a positive self-evaluation; a low score indicates a negative self-evaluation. Also provided is an assessment of the child's level of self-concept in six subareas: Behavior, Intellectual and School Status, Physical Appearance and Attributes, Anxiety, Popularity, and Happiness and Satisfaction (see Table 1). These six subareas are based on factors previously derived by Piers (1969).

Several studies have attempted to confirm the existence of the six factors. While many of the studies have replicated some of the factors found in the original Piers analysis, most studies have found additional factors or have failed to replicate all of the six factors (c.f. Michael, Smith, & Michael, 1975; Piers, 1973; Rich, Barcikowski, & Witmer, 1979; Wolf, Monng, Saunders, Webber, & Bereson, 1982). Additionally, Platten and Williams (1979, 1981) identified factor instability within the same sample across a 10-week test-retest interval.

The procedure employed by Piers in her 1969 analysis assumes multidimensionality of the scale (Gorsuch, 1983). However, as noted

by Bentler (1972), the first unrotated dimension accounts for the majority of total variance of the items and thus makes the scale more nearly unidimensional. The present study further examines the multidimensional nature of the Piers-Harris using a hierarchial factor analysis procedure developed by Gorsuch and Dreger (1979).

A sample of 485 (248 girls and 237 boys) children were used in the analysis. The sample consisted of 279 elementary school, 55 junior high school, and 151 senior high school students. All children attended public school.

The initial analysis performed a principal components analysis with a promax rotation. Twenty-four factors with eigen values exceeding 1.00 were identified in the first-level analysis. The second- and third-level analyses produced no higher-order factors. Higher-order factors are determined by factoring the correlations among the factors derived in the first-level analysis. The factor matrices created for the second- and third-order factors are interpreted in the same way as the primary (first-level) factors. Many of the 24 factors found in the first-level analysis had only one or two items with loadings of .40 or above. Additionally, only eight viable factors were indicated when a Scree test was performed. Therefore, the factor analysis was rerun setting the number of factors equal to eight.

The second factor analysis produced results similar to those found by Piers (1963). Items having factor loadings of .40 and above were said to load on a particular factor. Of the eight factors identified, six appeared to be related to those factors derived by

Piers (see Table 2). An additional factor reflecting creative or artistic skill also emerged. The eighth factor had only one item with a loading above .40. The percentage of extracted variance attributed to each of the first-order factors ranged from 7 to 11%.

The second-order analysis using only the eight factors identified above. Four second-order factors were found and are presented in Table 3. The eighth factor derived in the first-order analysis and the Physical Appearance and Attributes loaded on Factor III. The artistic factor and the Intellectual and School Status factor loaded on Facto IV. Factor I was comprised of the Behavior and the Happiness and Satisfaction factors. The final factor, II, consisted of Popularity and Anxiety. The percentage of extracted variance attributed to each of the four factors ranged from 2 to 7%. Additionally, only 28% of the extracted variance was reproducible from the second-order factors.

One general factor was produced at the third-order analysis, indicating the existence of an overall dimension of self-concept. Results of this analysis are presented in Table 4.

The results of this study provide support as to the multidimensionality of children's self-concept as measured by the Piers-Harris. Many of the items loading on Piers' original factors also emerged on the factors derived here using a hierarchical factor analysis. The assumption of the existence of higher-order factors does not seem justifiable with the current sample, since only a small percentage of the extracted variance is reproducible from the second-

order factors. It appears, thus, that while there may be a dominant general construct of self-concept in children, there are subareas of self-concept that should also be assessed and researched in order to fully understand a child's self-evaluation.

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Table 1
Subareas Measured by the Piers-Harris
and Sample Items

Subarea	Item
Behavior	I often get into trouble.
Intellectual and School Status	I am smart.
Physical Appearance and Attributes	I am good-looking.
Anxiety	I worry a lot.
Popularity	I have many friends.
Happiness and Satisfaction	I like being the way I am.

Table 2
Results of First-Level Analysis

	Factor							
Item	A	B	C	D	E	F	G	H
1	.08	.07	.09	.09	.05	-.21	.36	-.13
2	-.07	.00	.21	.11	-.02	.08	.57	.05
3	.36	-.07	-.07	.08	.01	.01	.50	-.07
4	-.11	.06	.04	.42	.07	-.07	.32	-.01
5	.14	.04	.21	.17	.62	-.01	.03	.05
6	.19	-.03	.14	.29	-.14	.27	.23	.04
7	.09	.02	.08	.48	23	.06	.04	-.14
8	.12	.09	.43	.45	-.05	-.17	.08	-.14
9	.22	-.01	.27	.08	.12	.22	.01	.00
10	.08	.03	-.06	.38	.37	-.14	-.15	-.03
11	.37	.07	.17	.10	.16	-.25	.28	-.12
12	-.15	.46	.02	-.15	.37	.11	.08	.02
13	-.01	.17	.04	.21	.17	.10	.25	-.01
14	-.07	.43	.09	.07	-.07	-.11	.36	.17
15	.35	-.08	.21	.24	.01	.07	-.14	.21
16	.31	-.09	.04	-.05	.30	-.08	.15	.30
17	.03	.10	.31	-.03	.09	.20	.22	-.02
18	-.03	.38	-.03	.14	-.13	-.17	.13	.15
19	.07	-.04	.11	.01	.11	-.12	.07	.61
20	.19	.23	-.10	.29	.24	-.02	.00	.09
21	-.04	.14	.19	-.01	.59	.06	.17	.09
22	-.22	.58	.00	.04	.21	-.02	.00	.01
23	-.04	.07	.24	.14	.01	.04	-.15	.53
24	-.02	.07	-.04	-.05	.13	.10	.12	.50
25	.03	.66	.02	.09	.02	.10	.05	.01
26	.08	.11	.11	.17	.31	.32	.12	.01
27	.37	.04	.35	.13	.18	.22	-.05	-.07
28	.09	.12	-.05	.50	.12	.09	.15	.02
29	.03	.11	.44	-.22	.22	.14	.01	.05
30	.33	.16	-.04	.20	.27	.28	-.01	.28
31	-.11	.31	.13	.29	.24	.31	.15	.14
32	.06	.44	-.06	.01	-.04	-.11	-.19	.00
33	.36	.04	.04	.05	.39	-.20	.21	.18
34	-.07	.59	-.05	.02	.33	.00	.04	-.03
35	.00	.56	.03	.03	.10	.16	.05	.01
36	.14	.10	.28	.04	.24	.08	.13	-.12
37	.20	.10	.04	.56	.07	-.02	.08	.03
38	.11	.34	.19	-.07	.06	.08	.08	-.02
39	.08	.15	.36	.26	-.17	-.28	.27	.05
40	.33	.17	.08	.37	.04	-.12	.38	-.07
41	-.04	-.05	.48	-.07	.19	-.02	.12	.30
42	.20	.11	.11	-.03	.10	.44	-.06	.22
43	.11	.25	.40	.35	-.02	-.17	.11	-.10
44	-.05	.07	-.06	.05	.21	-.10	.45	.13
45	.03	.34	.06	-.14	.43	-.15	.13	-.13

Table 2 Continued

46	.59	.09	.12	.13	.03	.04	.25	-.15
47	.09	.08	-.14	.12	.15	-.07	.23	-.17
48	-.01	.49	-.01	.15	.00	-.13	.10	.07
49	.44	.01	.11	-.03	.41	.05	.09	.07
50	.06	.05	.11	.15	.11	-.04	.61	-.02
51	.42	-.05	.05	.08	-.05	-.05	.60	-.02
52	.10	.13	.15	.03	.05	.20	.56	-.02
53	.24	.14	.02	.25	.47	-.02	.10	.17
54	.15	.01	.68	.04	.19	-.15	.09	.10
55	.21	-.06	.19	.22	.01	.15	.22	.23
56	-.14	.34	-.01	-.06	.30	-.35	.22	-.04
57	.42	-.16	.28	.24	-.07	.01	.05	-.07
58	.26	.27	.00	.12	.11	-.30	.38	-.06
59	.03	.40	.11	.05	.02	.05	.37	.16
60	.15	-.08	.60	-.02	.19	-.17	.23	.15
61	.25	.25	.07	.11	.34	-.36	.13	.18
62	.20	.45	.09	-.04	.14	-.06	.09	-.17
63	.59	-.02	.18	.05	.05	-.06	-.02	.04
64	.17	.18	.16	.11	.11	-.37	.16	.14
65	.55	.03	.02	.12	-.06	.06	.11	.08
66	-.03	.30	.14	.22	.48	.04	.13	-.02
67	.24	.30	.10	-.03	.06	.13	.41	.10
68	.04	.42	.06	.06	.00	-.01	.02	-.10
69	.28	.06	.22	-.21	.19	.15	.23	-.22
70	-.07	.02	.07	.12	.47	.10	.03	.08
71	.16	.07	-.11	.03	.03	.27	.25	-.14
72	.21	.37	.07	-.28	-.06	.00	.13	.13
73	.12	.02	.56	.07	-.01	.09	.01	.09
74	.09	.02	-.06	.54	.15	-.01	-.02	.03
75	.12	.26	.03	.05	.29	-.19	.01	.12
76	.12	.16	.00	-.10	.20	-.04	.42	.17
77	-.06	.09	.00	.19	.01	.19	.15	-.18
78	-.19	.46	-.05	.14	.13	.09	.19	.02
79	.02	-.07	.11	.55	-.11	.02	.01	.04
80	-.13	.16	.18	-.16	.27	-.11	.50	.10

Table 3
Results of Second-Level Analysis

	I	II	III	IV
A	.11	.42	.13	.21
B	.55	.12	-.06	.08
C	.21	.30	.35	.03
D	.09	.39	-.04	.01
E	.42	.03	.07	.29
F	-.04	-.01	.34	-.03
G	.53	.22	.05	.02
H	.05	.05	-.03	.26

Table 4
Results of Third-Level Analysis

	1
I	.67
II	.57
III	.27
IV	.37